Application/Control Number: 10/646,552

Art Unit: 3700

**CLMPTO** 

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1. A skin vibrator comprising an oblong tubular hollow body, an electromechanical solenoid in the hollow body and positioned to impart a complex mechanical vibration to the hollow body in response to a complex electrical signal applied to the solenoid and damping means communicating with the hollow body and the solenoid to soften the complex mechanical vibration imparted to the hollow body,

- wherein the solenoid is positioned adjacent one end of the hollow body, and a foam tube is coaxially positioned in the hollow body.
- 2. The skin vibrator of claim 1 wherein the tubular hollow body has an axis therethrough and the solenoid is positioned to impart vibration transverse to the axis of the tubular hollow body.
- 3. The skin vibrator of claim 2 wherein the damping means are located at the opposite ends of the solenoid.
- 4. The skin vibrator of claim 1 wherein the solenoid is coaxial with the tubular hollow body and the damping means is located at each end of the solenoid.
- The skin vibrator of claim 4 including means to generate complex electrical waveform in electrical communication with the solenoid.

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6. The skin vibrator of claim 1 wherein the hollow body is egg-shaped with a longitudinal major axis.

- 7. The skin vibrator of claim 6 wherein the solenoid is positioned to impart vibration co-axial with the major axis of the hollow body.
- 8. The skin vibrator of claim 7 wherein the damping means are located at the opposite ends of the solenoid.
- 9. The skin vibrator of claim 8 including complex electrical waveform generation means in electrical communication with the solenoid.
- 10. The skin vibrator of claim 6 including an appendage attached to an end of the hollow body.
- 11. The skin vibrator of claim 10 wherein the appendage is angularly offset from the major axis of the hollow body.
  - 12. A solenoidal skin vibrator comprising a relatively light hollow solenoid tube (20), at least one electric winding (22) on the hollow solenoid tube, and a relatively heavy, freely slideable permanent magnet (24) within the light hollow solenoid tube;

wherein in response to the application of a complex electrical signal (29) to the electric windings a complex mechanical vibration is manifested by the relatively light hollow solenoid tube in reaction to the inertia of the relatively heavy permanent magnet.